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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,244	08/04/2000	ALEXANDER HERRIGEL	0796/61556	9000

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EXAMINER	
NOBAHAR, ABDULHAKIM	

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/509,244	HERRIGEL ET AL.	
	Examiner	Art Unit	
	Abdulhakim Nobahar	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 and 17-22 is/are rejected.

7)☒ Claim(s) 10-15 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 6.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites the limitation " symbol based Reed Soio-mon codes as error control codes " in line 3 and 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 17 recites the limitation "before embedding said watermark fore em-bedding said watermark", which makes the claim unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-6 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Van Wie et al (5,943,422; hereinafter Van Wie).

Van Wie discloses a secure electronic steganographic (stego) techniques for protecting the rights of providers and copyright holders while a content is being transmitted (abstract and col. 3, lines 35-67).

Claims 1, 5 and 18-20

Van Wie discloses a stego process that a right management control information (corresponding to the recited digital watermark) is encrypted applying a cryptographic key and the encrypted control information is added (i.e., embedded) to a transmitting data stream by a stego encoding operation (see, for example, Fig. 7A; col. 16, line 19-col. 17, line 30). Van Wie also discloses that, afterward the stego data is encrypted and then transmitted to a receiving party. The encrypted control information is added to

particular section (corresponding to the recited cover data) of the original data stream (see, for example, Fig. 6; col. 16, lines 2-18). Van Wie further discloses the transformation of digitized information from the time domain to the frequency domain by using Fourier transform (col. 16, lines 53-59). Van Wie discloses that in the process of steganographic a digital certificate (corresponding to the recited digital signature) is used to securely enforce and authenticate (verifying originality) the right management control information (i.e., watermark) (col. 5, lines 44-47; col. 10, lines 8-18).

Claims 2 and 3

Van Wie discloses:

generating a mask message (BIISN) (see, for example, col. 17, lines 30-46),

generating a signature (DSSMRG(psH, BIISN)) of said mask message (BI ISN) using said secret private key (psH) (see, for example, col. 5, lines 44-47; col. 13, lines 47-67), and

using said signature of said mask message for seeding an encryption algorithm for said stego data set (SD) (see, for example, col. 16, line 60-col. 17, line 18).

Claim 4

Van Wie discloses:

wherein said encryption algorithm comprises the step of calculating the Fourier transform of said stego data set (SD), modifying the phase components of the Fourier

transform using a pseudo-random pattern seeded by said signature (DSSMRG(psH, BIISN)) of said mask message

(BI ISN) and calculating the inverse Fourier transform for generating the encrypted stego data set (see, for example, col. 6, lines 29-41; col. 16, line 52-col. 17, line19).

Claim 6

Van Wie discloses:

wherein said step b) comprises the step of generating at least one watermark of a first type, wherein said watermark of a first type is encoded using said private key 15 (psH) of H (see, for example, col. 6, lines 1-20; col. 16, lines 1-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-9, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Wie et al (5,943,422; hereinafter Van Wie) in view of Moskowitz et al (5,687,236; hereinafter Moskowitz).

Claims 7 and 8

Van Wie does not expressly disclose the use of a hash value technique in encoding process of the watermark.

Moskowitz teaches a steganographic method that hash values are utilized in the encoding process of the watermark in order to verify the right ownership of the watermark signature (see, for example, col. 15, line 42-col. 16, line 15).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the verification of a signature based on hash value computation technique as taught in Moskowitz in the system of Van Wie, because it would make it harder, if not impossible, for someone to illegally transplant a watermark on the transmitted information (col. 16, lines 38-48).

Claim 9

Van Wie discloses:

wherein said step b) further comprises the step of generating at least one watermark of a second type, wherein said watermark of a second type comprises a payload (pcH[AM]) derived from the Fourier transform of said cover data (CD) (see, for example, col. 6, lines 1-20; col. 16, lines 1-20; col. 16, line 52-col. 17, line19).

Claims 21 and 22

This claim is rejected as applied to the like elements of claims 1, 7 and 8 as stated above and further the following:

Moskowitz teaches that a copyright holder sends proper information to an authority. The authority issues a certificate for the copyright holder to provide authenticity of the watermark and ownership verification. Moskowitz also teaches that the certificate authority uses its public cryptographic keys to encrypt in the process of preparing the digital certificate (col. 13, line 36-col. 14, line 45).

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Wie et al (5,943,422; hereinafter Van Wie) in view of Delaigle et al (XP 000604065, "Digital Watermarking", Proceedings of the SPIE, Vol. 2659, February 1996, pages 99-110; hereinafter Delaigle).

Claim 17

Van Wie does not expressly disclose the step of calculating a logarithm of a cover data set (CD) before embedding a watermark in a perceptually flat domain.

Delaigle teaches a digital watermarking method that calculates logarithms of signals contrast in order to trace signals with single frequency and one orientation (see page 101, paragraph 2.4).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the calculation of logarithm of signals such as cover data as taught in Delaigle in the system of Van Wie because it would mask the watermark from the human eye (page 101, paragraph 2.3).

Allowable Subject Matter

Claims 10-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 5,613,004 to Cooperman et al.

US Patent No. 5,889,868 to Moskowitz et al.

US Patent No. 5.912,972 to Barton.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdulhakim Nobahar whose telephone number is 703-305-8074. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 703-305-1830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. N.

Abdulhakim Nobahar
Examiner
Art Unit 2132

AN

September 9, 2004

Gilberto Barron

GILBERTO BARRON
SUPERVISORY PATENT EXAMINER
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